



COVEY RISE

The Newsletter of The International Quail Foundation
Volume 3, Number 1 January-February 1984

THOMAS F. RODGERS/EDITOR • WILLIAM B. WEBSTER/PRESIDENT • JENNIE RODGERS/MANAGING EDITOR

1983 Research Grants—In—Aid: A Progress Report

by A. Sydney Johnson
Director of Research

In 1983 the International Quail Foundation provided its first research grants-in-aid—about \$40,000 to support five research projects. All project leaders report satisfactory progress on their respective studies. Data collection has been completed on three of these, and final reports are being prepared. Two studies are continuing projects, and final results will not be available for several years.

One of the on-going projects is a study of the reproductive status and summer whistling of bobwhite males being directed by Mr. John L. Roseberry of Southern Illinois University. The study is directed toward developing a better understanding of how intensity of calling by bobwhite males relates to reproductive effort. This information is needed for more accurate interpretation and effective use of call counts in management decision-making.

Graduate Research Assistant Tedi Ebbert began work on the study last August and has conducted an extensive literature review, constructed traps, and field tested different wing markers placed on wild birds.

Field work in 1984 on the project will begin in February and continue through September. It will include censusing, intensive trapping and marking of birds for field identification, systematic call counts, and observing calling males with binoculars and spotting scope to determine their breeding status.

Another continuing project is the 5-year study of the effects of no-till farming on bobwhite quail in western Tennessee.

This study is being conducted by William G. Minser and Ralph W. Dimmick of the University of Tennessee. Supported by the U.S. Soil Conservation Service, the Wildlife Management Institute, and the International Quail Foundation, it will involve comparing numbers of quail and certain other wildlife species on areas farmed by conventional tillage and by no-till methods. Mr. Minser reports that the first census of the study areas was conducted in December and the next census will be in March.

A related study supported by IQF has been completed and the final report is being written. This study, directed by Dr. Raymond P. Morgan II of the University of Maryland's Center for Environmental and Estuarine Studies at Frostburg, dealt with the effects of Treflan on embryonic development of bobwhites. Treflan is a herbicide used extensively in no-till and conventional agriculture, especially in the South.

Field work on two studies of western quail also was completed. These include a study of social behavior in California quail, directed by Dr. Dale F. Lott of the University of California at Davis, and a study of habitat selection by mountain quail, led by Dr. Ralph J. Gutiérrez of Humboldt State University. A progress report on the mountain quail study is included in this issue of **COVEY RISE**.

Results of these two studies and that of Dr. Morgan will be available soon. They will be the first research projects completed with support from IQF grants-in-aid. We hope they will contribute to stimulating a re-awakening of interest in quail research.



Dr. James G. Teer Accepts Appointment to the Research Advisory Committee

Dr. James G. Teer, Director of the Rob and Bessie Welder Wildlife Foundation at Sinton, Texas, has agreed to serve as a member of IQF's Research Advisory Committee. Dr. Teer is known and respected internationally for his research and special assignments relating to wildlife management. He has had much experience in research administration and proposal evaluation, which should be quite valuable in his service to IQF. The primary role of the Research Advisory Committee is to assist the Director of Research in selecting projects for funding by IQF.

Biographical sketches of Dr. Teer and other members of the Research Advisory Committee will be published in a future issue of **COVEY RISE**.

Nine States Take Million Plus Quail

The U.S. Fish and Wildlife Service reports that in 1980 there were nine states where hunters were bagging more than a million quail. These top quail hunting states were:

1. Oklahoma—2,063,432
2. California (1979)—2,022,000
3. Arizona—1,987,103
4. Missouri—1,527,369
5. Mississippi ('80-'81)—1,504,599
6. Tennessee—1,498,250
7. Alabama ('80-'81)—1,382,800
8. Georgia ('80-'81)—1,229,980
9. Kansas—1,186,000

IQF Receives Eight New Proposals for \$164,508 in Research Grants—In-Aid

Eight proposals for 1984 research grants-in-aid were received by the November 15 deadline. They requested \$164,508 in financial support over several years, including \$94,014 in 1984. In addition, two projects funded for 1983 are scheduled for continued funding (\$13,206) in 1984. The Research Advisory Committee has begun review of the proposals, and projects selected for funding in 1984 will be announced by March.

Stocking Not the Key to Better Quail Hunting Claims N.C. Official

"Quail hunting just isn't what it used to be. If the state would stock some quail, bird populations would bounce back and the hunting would be better."

This request is typical of many received by the N.C. Wildlife Resources Commission (and other states as well) from hunters and landowners. However, most people are surprised to find that wildlife biologists generally discourage quail stocking as a wildlife-management practice.

"Much of this confusion arises as the result of two things," said Carl Betsill, small-game project leader for the N.C. Wildlife Resources Commission. "First, the Wildlife Commission has programs to stock deer and wild turkey, so why not quail? Isn't this discrimination against the small-game hunter? The answer is 'no,' because deer and wild turkey are stocked only in areas where there is suitable habitat and a lack of breeding stock. These projects are really attempts to restore populations of these species, and are not truly 'stocking' programs. Biologists have always found that if there is adequate habitat for quail, birds from surrounding areas will quickly fill the void.

"A second confusing point is the difference between stocking quail as a long-term, wildlife-management practice and for short-term, 'put-and-take' recreation. Stocking alone has never worked as a long-term means to increase quail populations, and has more often than not even failed to provide efficient put-and-take recreation. The game-farm programs of the past serve as a good example. Many state wildlife agencies, including North Carolina, once operated game farms to

raise quail for stocking in the field—ultimately hoping to increase the hunter's bag. Without exception, these stockings were dismal failures. Biologists found that it's not unusual for 60 percent of the pen-raised birds to die within a month after being stocked. In fact, one study showed that of 360 quail stocked in the fall, only 28 percent could be located 45 to 60 days later. By April, the statistics were even grimmer—only six percent remained. Even with wild birds in good habitat, 70 to 80 percent die and are replaced through reproduction each year. If the habitat being stocked is so poor that native birds are unable to survive, there is no reason to expect pen-raised birds to do any better, which means that stocking will become an annual chore."

This put-and-take stocking of quail is not cheap, either. A good price for a flight-conditioned quail is \$2.50. At that rate it would cost the N.C. Wildlife Resources Commission about \$1.5 million to increase the average hunter's bag by one bird assuming that all of the birds stocked were recovered by hunters, which may be the ultimate in wishful thinking. In fact, studies have shown that very few birds which were released in statewide stocking programs are recovered by hunters. For example, biologists in Tennessee stocked nearly a half-million quail over 12 years, and found that they were spending \$180.71 for each artificially-reared quail harvested by a hunter.

What is the alternative to stocking quail? Habitat development and improvement is the best answer—it's cheaper, more effective, and lasts longer.

"Quail require many different things within their home range—including good escape cover, nesting and brooding areas, and adequate winter food," said Betsill. "All of these needs may be met through habitat management. If any of these factors is lacking, however, quail populations will suffer. Determining which factor is limiting quail numbers, and how this can be corrected, can be tricky. Up-to-date management studies (some of those sponsored by IQF) will assist quail biologists and wildlife managers in improving habitat and securing a brighter future for quail.

Recent Publications

A listing of selected current publications on quail biology and management will be a regular feature of **COVEY RISE**, beginning with this issue. These publications are not available from the International Quail Foundation. In many cases a reprint of the article may be obtained from the first author at the address listed in parentheses or from the organization or publisher as indicated.

Steve E. Backs. 1982. An evaluation of releasing first generation (F1) bobwhite



THE RUFFED GROUSE SOCIETY

Join the campaign to secure a bright future for ruffed grouse, American woodcock and other forest wildlife.

Annual membership includes subscription to *The Drummer*, bi-monthly publication of the Society.

For more information write:
The Ruffed Grouse Society
1400 Lee Drive
Coraopolis, PA 15108

quail produced from wild stock. Indiana Dept. of Natural Resources. Pittman-Robertson Bull. No. 14. (Available from Indiana Dept. of Natural Resources, Division of Fish and Wildlife, 607 State Office Bldg., Indianapolis, In. 46204.)

J. Richard Cain, Samuel L. Beasom, Lenton O. Rowland, and Loyd D. Rowe. 1982. The effects of varying dietary phosphorus on breeding bobwhites. *Journal of Wildlife Manage.* 46(4): 1060-1065. (Poultry Science Dept. Texas A & M Univ., College Station 77843)

Paul A. Johnsgard. 1979. The American wood quails *Odontophorus*. *World Pheasant Assoc. J.* 4:93-99. (School of Life Sciences, Univ. of Nebraska, Lincoln 68588.)

William G. Minser III and James L. Byford. 1981. Developing quail habitat on farmland. *J. Soil & Water Conserv.* 36 (1): 17-18. (Dept. of Forestry, Wildlife and Fisheries, Univ. of Tennessee, Knoxville 37901)

John L. Roseberry and Willard D. Klimstra. 1983. Population ecology of the bobwhite. Southern Ill. Univ. Press, Urbana. 304 pp. (\$25 + \$1.50 postage and handling, Southern Ill. Univ. Press. Order Dept., P.O. Box 3697, Carbondale, IL. 62901)

William M. Webb and Fred S. Guthery. 1982. Response of bobwhite to habitat management in Northwest Texas. *Wildl. Soc. Bull.* 10 (2): 142-146. (Dept. of Range and Wildlife Management, Texas Tech Univ., Lubbock 79409)

Mountain Quail Habitat Ecology Study: Progress to Date*

Leonard Brennan, William Block, and R. J. Gutiérrez

Department of Wildlife
Humboldt State University
Arcata, California 95521

During the 1983 spring-summer field season we collected data pertinent to our meeting two IQF study objectives. The first objective was to define a general pattern of Mountain Quail (*Oreortyx pictus*) habitat use over northern California. The second objective was to develop a predictive model to assess the suitability of a given habitat for Mountain Quail.

We sampled Mountain Quail habitat use in four distinct physiognomic provinces in northern California: the Coastal Range, the Klamath Mountains (Cascades), the northern Sierra Nevada, and the Great Basin. By sampling Mountain Quail habitat over a large portion of their range, we were seeking a general pattern in Mountain Quail habitat use.

We sampled each study area in two ways. First, we located Mountain Quail and used each sighting as the center of a 0.02 ha [hectare] (15 m diameter) circular habitat plot within which 16 structural habitat parameters were measured. We found and measured 194 such plots distributed among our four study sites. Second, we used a systematic random sampling scheme to locate 25 additional habitat plots at each study area. These plots represent the habitat available to the Mountain Quail. By comparing areas of known quail use with the available habitat, we are able to test the hypothesis that Mountain Quail are distributed randomly throughout the habitat; i.e. they passive track (follow) vegetation.

Preliminary analyses of part of our data using various multivariate statistical techniques reveal that Mountain Quail select for a particular habitat configuration. The general habitat pattern consists of relatively dense shrub cover, provided by well developed shrubs, and fairly close to water.

Of course, these results are only preliminary and may change when we analyze our complete data set. However, it appears that multivariate statistical methods are a powerful tool in sorting out those variables that best describe Mountain Quail habitat.

Mountain Quail range throughout a geographic area that is second in size only to the Bobwhite Quail. Until recently, the Mountain Quail was the least studied



Mountain quail exhibiting bowing and whistling behavior.

of the Odontophorinae (New World Quail). Resource agencies had only qualitative natural history accounts upon which to base management decisions. The predictive habitat model that will result from this study will provide resource managers with a tool with which they can assess the suitability of a habitat for Mountain Quail and provide a basis for sound management practices.

In contrast to much of the California Quail (*Callipepla californicus*) habitat which is on private land and generally inaccessible to the public, much of the Mountain Quail habitat is found on public land. Therefore, it is important that we understand how to manage Mountain Quail habitat to insure public access and success in quail hunting.

* This research is being supported in part by a grant from IQF.

Six Bag 665 Quail, \$1600 In Fines

Six Louisiana game law violators put a dent in the Dickens County, Tex., quail population when the season opened Oct. 29, but in the end it was their own pocket-books that took a beating.

Texas Parks and Wildlife Department game wardens received a telephone tip on Nov. 1 that some excessive shooting was in progress on a ranch near Dickens.

Arriving on the scene, the game wardens found the Bayou state shooters already had killed 145 quail that day, and further searches turned up 520 dressed quail they had bagged earlier.

The four adults in the hunting party paid over \$1600 in fines at a justice of the peace court in Dickens after pleading guilty to exceeding the quail bag and possession limits. The daily limit in Dickens county is 20 per day, 60 in possession.

IQF Car Decals Available

The International Quail Foundation is now offering window decals for your car or truck to members and subscribers of COVEY RISE. These beautifully detailed full-color decals feature a David A. Maass flying quail on a field of yellow. Decals are \$1.00 each with \$.50 for postage and handling. Order from IQF, P.O. Box 550, Edgefield, S.C. 29824-0550.

IL. Seeks Leg Bands From Quail and Pheasant

Illinois hunters who bag pheasant or quail that have been banded as part of the Conservation Department's cooperative quail and pheasant program are asked to return either the bands or the information on the bands to the Department of Conservation, according to Terry Musser, DOC wildlife biologist.

Bands or information should be sent to: Terry Musser, Dept. of Conservation, Div. of Fish and Wildlife, 524 S. Second St., Springfield, IL 62706.

Birds banded and released by sportsmen's clubs participating in the cooperative program this year bear the abbreviation: "CC-83, RET. Dept. Cons. Spfld., IL." (Return Dept. of Conservation, Springfield, IL.). The band also bears a serial number.

If the hunter chooses to send only the information to the department, he should include the serial number. Other important items include: name and address of the hunter who bagged the bird, date taken, and location (distance and direction from the nearest town).

Musser added that the Department also is interested in obtaining the same information regarding banded birds that perished as road kills or by means other than hunting.

Wildlife Booklet Available

Copies of the popular booklet **Helping Wildlife: Working with Nature** can be obtained from the Wildlife Management Institute. Written by Colorado State University wildlife specialist Delwin E. Benson, the illustrated, 36-page booklet was prepared as a nature and wildlife management primer for youngsters 8-18 years old. More than 55,000 of the booklets have been distributed, and their usefulness as a teaching aid and instructional medium has received acclaim from educators and students alike. Single copies may be purchased for \$1.50 from WMI, Suite 725, 1101 Fourteenth St., N.W., Washington, D.C. 20005.

Two Abstracts of Interest to Quail Enthusiasts

Regulations and Restrictions Pertaining to Bobwhite Quail Harvests in the South¹

George A. Hurst and Walter Rosene
Department of Wildlife and Fisheries
Mississippi State University
Mississippi State, Ms. 39762 and
Gadsden, AL. 35092

A questionnaire was used to obtain current state wildlife agency regulations dealing with bobwhite quail harvests in the South. Managers of quail plantations/clubs also were contacted to obtain their restrictions on quail harvests. State regulations specify hunting season dates and length, daily bag limit, season limit, hunting conditions (e.g. no continuous snow cover), number of shells allowed in a gun, and use of vehicles or electronic callers. Some states have special regulations for Wildlife (Game) Management Areas, where hunting is limited to certain days per week and a permit is required. Intensively managed quail plantations follow state regulations, and in addition they have restrictions on total harvest and hunting methods. On some plantations a harvest quota is established on the basis of number and average size of coveys (i.e. a total population estimate). The quota is established near the end of December after the manager, guides, and dog handlers have spent several months afield. The adult:juvenile ratio, from wings of harvested quail up to late December, is used as an indicator of reproductive success and enters into development of a quota. Clubs restrict harvests by allowing only 2 shells per gun and 2 guns per covey rise, by limiting the harvest to no more than 3 quail per covey/per hunt and no covey is shot-down to less than 8 birds, by limiting hunting on an area

(course) to once per 7–10 days, and by setting a season limit per member and/or guests.

Bobwhite Harvest Management on Southwestern Rangeland¹

V.W. Lehmann
Caesar Kleberg Wildlife Research Institute
Texas A & I University
Box 218, Kingsville, TX 78363

Hunting for recreational purposes is a justifiable use of the quail resource, but research, experience, and common sense all dictate that greater attention be given to better utilizing expendable portions of annual populations. On this premise serious consideration may be given to the following: 1) limit annual harvests to no more than 50% of early fall densities, 2) begin harvests in mid-November; end harvests (and all other disturbance, such as dog training) no later than 31 January, 3) lower the daily bag limit to 8–10 quail per day; reduce possession limits to 24–30 birds, 4) hunt (or train dogs) over the same grounds no more often than once per week, 5) hunt die-off prone habitat earliest; tall grass semi-prairie last, leaving a carry-over population of 1 pair per 3.5 ha* in semi-prairie where good nesting cover occurs, 6) schedule hunts to begin no earlier than 9 a.m. and to end by 4 p.m., 7) refrain from hunting 1 day before "wet" northers, and for at least 1 day thereafter, 8) take no more than 1–3 individuals from a covey; avoid killing more than 3 individuals from a covey on a single occasion, 9) always utilize the services of retrieving dogs to minimize crippling loss, and 10) work for changes in present regulations to maximize use of quail for recreational purposes.

¹ Reprinted from **Abstracts of a Symposium on Game Harvest Management**, October 3–6, 1983. Texas A & I Univ., Kingsville, TX.. Sponsored by Caesar Kleberg Wildlife Research Institute.

* hectare—2.47 acres

IN MEMORY

Drs. James and Ann Jarrett and Stan and Sherry Jones generously donated \$25.00 to the IQF in memory of Mr. W.C. Fondren of Mathiston, Ms., an outstanding sportsman, dog trainer, and devotee of the bobwhite quail.

Wild Bird Book Available

Are you one of the 60 million Americans who feeds wild birds? If so, you may want **WILD BIRD FEEDING PREFERENCES**, by Dr. Aelred Geis and Donald Hyde Jr., just released by the National Wildlife Federation.

For your copy write to Wild Bird Feeding Preferences, Dept. 157, National Wildlife Federation, 1412 16th St., NW, Washington, D.C. 20036.



Hunt Quail

Also

Wild Boar Hunting Year Round
Dogs & Guides Furnished
Spacious Lodge
Home-Cooked Meals
Old-Fashioned Southern Hospitality
Call or write: Joe Bostick
(803) 625-3860 or 625-4655
Bostick Plantation Hunting Club
Rt. 1 — Box 313 — Estill, S.C. 29918



INTERNATIONAL QUAIL FOUNDATION

Post Office Box 550
Edgefield, South Carolina 29824-0550
Address Correction Requested